Amendments to the Claims

1. (currently amended) A method for background replacement in image capture systems, the method comprising:

recording a background of an image with no foreground object with an image capture device, wherein the background is used as an input to a probability function;

using said image capture device to capture an input image having a foreground object;

classifying each pixel in said input image as a foreground pixel or a background pixel ~~by~~ wherein classification results from calculating the probability function directly from a formula using chromatic component values and intensity values in the probability function for each pixel in the input image ~~resulting in~~ producing a classification and a probability map simultaneously;

refining said classification and probability map to ensure proper classification;

replacing said background pixels with pixels from a different background, wherein said replacing is performed with feathering using weighted values for pixel values of the input image and the different background determined by the probability map; and

producing an output image comprised of said foreground pixels and said pixels from a different background.

2. (previously presented) The method as claimed in claim 1 where refining is performed in the normalized RGB chromatic color space.

3. (previously presented) The method as claimed in claim 1 wherein refining is performed in YCbCr color space.

4. (previously presented) The method as claimed in claim 1 wherein said input image comprises one frame of video data.

5. (previously presented) The method as claimed in claim 1 wherein said input image comprises more than one frame of video data.

6. (previously presented) The method as claimed in claim 1 wherein said input image comprises a still image.

7. (previously presented) The method as claimed in claim 1, wherein said refining is performed with anisotropic diffusion.

8. (previously presented) The method as claimed in claim 1, wherein said refining is performed with morphological filtering.

9. (original) The method as claimed in claim 1, wherein said output image is a video image.

10. (original) The method as claimed in claim 1, wherein said output image is a still image.